2005 White House Conference on Aging
Texas White House Conference Solutions Forum

Universal Design:
Ensuring Safety and Convenience in New Construction and Home Modification

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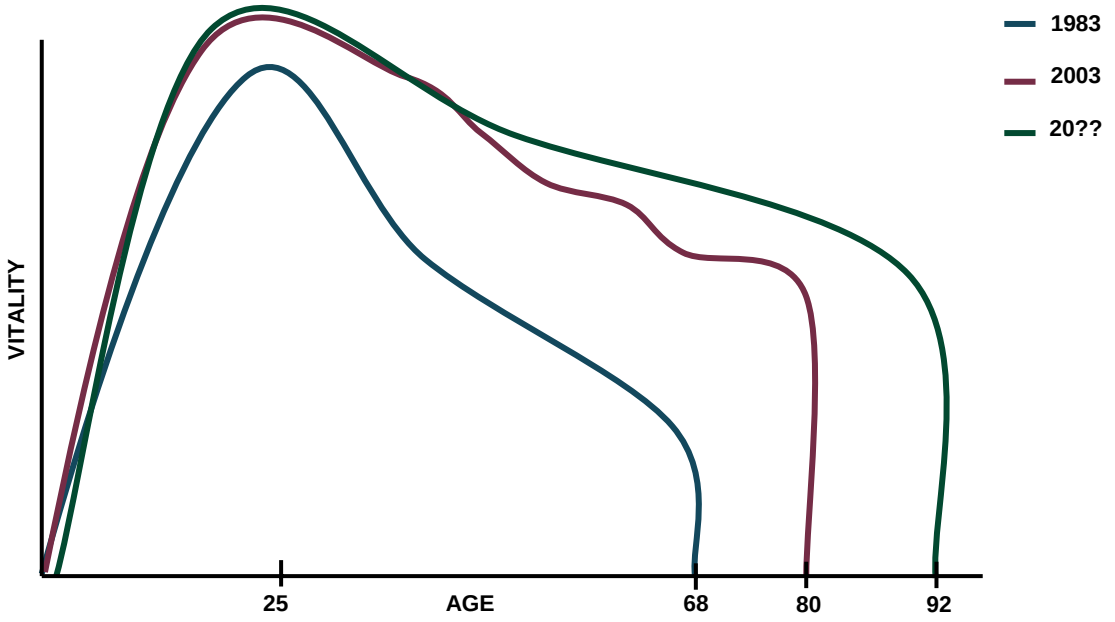
Where are you going to live the last years of your life? How are you going to live those years?
The trends in aging show us a vitality curve that declines at a slower rate over a longer period of time. We are living longer and dying faster. So how are you going to live your extra years?



Are you able to lift, turn, run, jump, react as you did 20, 10, 5 years ago? How about last week? What will that mean for your living and work spaces?

Universal Design is an approach to the design of all products and environments to be as usable as possible by as many people as possible regardless of age, ability or situation.

Universal Design is assuming growing importance as a new paradigm that represents a holistic and integrated approach to design ranging in scale from product design to architecture and urban design, and from simple systems such as those that control the ambient environment to complex information technologies. Worldwide, a confluence of

factors is driving the demand for more universally usable products, environments, and services. These factors include the competitive and global nature of modern business, the flourishing communications technology industry, the international disability movement, and the rapidly growing aging and disabled populations all over the world.

Universal Design is not a synonym or a euphemism for accessibility standards. Universal Design can be distinguished from meeting accessibility standards in the way that the accessible features have been integrated into the overall design. This integration is important because it results in better design and avoids the stigmatizing quality of accessible features that have been added on late in the design process or after it is complete, as a modification.

Universal Design also differs from accessibility requirements in that accessibility requirements are usually prescriptive whereas Universal Design is performance based. Universal Design does not have standards or requirements but addresses usability issues. The Principles of Universal Design, published by the Center for Universal Design in 1997, articulate the breadth of the concept and provide guidelines for designers.

The Principles of Universal Design and their guidelines were developed by a working group of architects, product designers, engineers, and environmental design researchers as part of a project coordinated by the Center for Universal Design at North Carolina State University. The seven Principles that describe characteristics that make designs universally usable are:

1. Equitable Use:
   - Provide the same means of use for all users: identical whenever possible; equivalent when not.
   - Avoid segregating or stigmatizing any users.
   - Provisions for privacy, security, and safety should be equally available to all users.

Make the design appealing to all users.

2. Flexibility in Use:
   - Provide choice in methods of use.
   - Accommodate right- or left-handed access and use.
   - Facilitate the user's accuracy and precision.

Provide adaptability to the user's pace.

3. Simple and Intuitive Use:
   - Eliminate unnecessary complexity.
   - Be consistent with user expectations and intuition.
   - Accommodate a wide range of literacy and language skills.
   - Arrange information consistent with its importance.

Provide effective prompting and feedback during and after task completion.

4. Perceptible Information:
   - Use different modes (pictorial, verbal, tactile) for redundant presentation of essential information.
   - Provide adequate contrast between essential information and its surroundings.
   - Maximize "legibility" of essential information.
   - Differentiate elements in ways that can be described (i.e., make it easy to give instructions or directions).

Provide compatibility with a variety of techniques or devices used by people with sensory limitations.

5. Tolerance for Error:
   - Arrange elements to minimize hazards and errors: most used elements, most accessible; hazardous elements eliminated, isolated, or shielded.
   - Provide warnings of hazards and errors.
   - Provide fail safe features.

Discourage unconscious action in tasks that require vigilance.

6. Low Physical Effort:
   - Allow user to maintain a neutral body position.
   - Use reasonable operating forces.
   - Minimize repetitive actions.

Minimize sustained physical effort

7. Size and Space for Approach and Use:
   - Provide a clear line of sight to important elements for any seated or standing user.
   - Make reach to all components comfortable for any seated or standing user.
   - Accommodate variations in hand and grip size.

Provide adequate space for the use of assistive devices or personal assistance.

The ability exists to design and create spaces that are supportive of a population affected by aging. The problem has been defined. The curve is changing. The group before you is more aggressive, knowledgeable, active and demanding. How are you going to keep us happy?

The solutions we look for lie in dissemination of information. What are the options for design of space? How do lighting and color affect us? Where can we go to find the data for the designers? How do we adapt existing spaces?

Creation of spaces for the silver haired bunch involves knowing what we have. What are the conditions of our homes and places we work, play, worship and travel? How many of the 7 principles have been accomplished?

How can we anticipate the need for alteration to accommodate our alterations? What is our personal inventory? Where is our “gerontopia”?

Our leaders can assist through the encouragement of and proactive involvement in supporting research efforts such as the Center for Universal Design at North Carolina State University. You can support the development of building codes that are inclusive of the principles of Universal Design. And you can support a national policy that promotes consistency in the design and development of work, living and playing environments.

And you can understand that you will be a part of the silver haired generation before too long. Where are you going to spend your extra years?

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